

DDG 51 CLASS MATERIAL CHECKS

UPDATED: 28JUN00

GENERAL CHECKS

DESCRIPTION		
MLOC/EOSS		
CLEANLINESS/PRESERVATION/STOWAGE: BILGES AND MACHINERY FOUNDATION PRESERVATION; DECKPLATES/HANDRAILS SECURE; LAGGING INTACT; ADEQUATE LIGHTING, SPACE STOWAGE; FLAMMABLES IN SPACE; OIL FREE BILGES; SECURE FOR SEA.		
REPAIR PARTS STORED IN SPACES LABELED, PIPING SYSTEMS STENCILED / RELEIF VALVES LABELED WITH APPROPRIATE DATA; GAGES WITHIN CALIBRATION		
TEST ABTs AMR1 MER1 AMR2 MER2 3GTG		
CHECK MBTs / POWER AVAIL / BREAKER LABELING AMR1 AMR2		
GAGE CALIBRATION / INSTRUMENTATION: GAGE ID AND CAL / SWBD METER OPER AND CAL / ALARMS / INDICATOR LIGHTS		
VALVE MAINTENANCE		
FIRE PUMPS: OPTEST, COUPLING GUARD, REMOTE START,STOP, CHECK VLV, MECHANICAL SEAL, FIREMAIN PRESSURE 1 2 3 4 5 6		
TEST OPERATE LESLIE VALVES		
VENTILATION TO INCLUDE: CONTROLLER INDICATOR LIGHT / HIGH AND LOW SPEED OPERATION, REMOTE START/STOP AMR1 MER1 AMR2 MER2 3GTG		

DC EQUIPMENT

CO2, PKP, PMS WITHIN PERIODICITY		
FIRE STATIONS COMPLETE		
EMERGENCY LIGHTING		
AFFF TEST OPERATE (Stations in recirc.) STATION NR1 NR2		
TANK LEVEL, GAGE CALIBRATION, LEAKAGE		
REFRACTOMETER TEST (present latest test results)		
CHECK AFFF STATION ALIGNMENT		
ACTUATION STATIONS / PIPING & SPRINKLER HEADS / HOSE HYDRO DATE / FITTINGS / VALVE ALIGNMENT / HOSE REEL / ANTI-CRIMPING STRAP / NOZZLES		
TEST OPERATE REMOTE OPERATED VALVES		
TEST OPERATE EDUCTORS		
EEBDs QUANTITY / STOWAGE / DISTRIBUTION / TAMPER SEAL / MOD		
INSPECT ELLISON DOORS / ESCAPE TRUNKS AMR1 MER1 AMR2 MER2 3GTG		
PHOTO-LUMINESCENT PAINT		
HALON CO2 ACTUATION BOTTLE PMS FLEX HOSE TEST TAGS REMOTE ACTUATION STATIONS PIPING/NOZZLE INTEGRITY		

HALON

ACTUATION STATIONS / PIPING / SPRINKLER HEADS / HOSE HYDRO DATE	AMR1	MER1	MER2	3GTG		
OPERATIONAL TEST CO2 ACTUATION, 18M-3R	AMR1	MER1	MER2	3GTG		
PRESSURE SWITCH TEST (VENTS, ALARMS-VIS/AUD), Q-1	AMR1	MER1	MER2	3GTG		
HALON LEVEL CALI STICKER/BOTTLE PRESS	AMR1	MER1	MER2	3GTG		

O = OBSERVE

1

X = DEMONSTRATE

CCS

PACC CHECKS

DESCRIPTION		
VERIFY CONSOLE ALIGNMENT, TEST ALARMS AND STATUS INDICATORS		
SHIFT TO UPS / CHECK THAT REDUNDANT POWER SUPPLIES ARE OPERATIONAL		
CLEANLINESS AND OPS OF PACC AND PACCEE FANS / FILTERS / CABINETS		
FUEL SERVICE MOTOR OPERATED VALVES (FOTG)		
MODULE FUEL VALVES (FOAS)		
REMOTE PUMP OPERATION		
CRP SLEW RATE (CPPT)		
EOT WRONG DIRECTION ALARM		

EPCC CHECKS

VERIFY CONSOLE ALIGNMENT, TEST ALARMS AND STATUS INDICATORS		
SHIFT TO UPS / CHECK THAT REDUNDANT POWER SUPPLIES ARE OPERATIONAL		
DEAD BUS PICK-UP	1 GTG	2 GTG 3 GTG
TEST APD LOAD AND PARALLEL EACH	1 GTG	2 GTG 3 GTG
REVERSE POWER RELAY	1 GTG	2 GTG 3 GTG

DCC CHECKS

VERIFY CONSOLE ALIGNMENT, TEST ALARMS AND STATUS INDICATORS		
SHIFT TO UPS / CHECK THAT REDUNDANT POWER SUPPLIES ARE OPERATIONAL		
RANDOM TEST OF FIRE/SMOKE IONIZATION DETECTORS (SHIP'S PROCEDURE)		
DEMONSTRATE VENTILATION REMOTE OPERATION AMR1 MER1 AMR2 MER2 3GTG		
DEMONSTRATE FIREMAIN VALVE REMOTE OPERATION		
FIRE PUMP START/STOP LOGIC	1 2 3 4 5 6	

EOOW CONSOLE

SHIFT TO UPS / CHECK THAT REDUNDANT POWER SUPPLIES ARE OPERATIONAL		
VERIFY CONSOLE ALIGNMENT, TEST ALARMS AND STATUS INDICATORS		

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2

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AUXILIARY SPACES (AMR 1 / AMR 2 / SHAFT ALLEY / VCHT ROOM 1 / 3 GTG)**SEA WATER SERVICE SYSTEM (AMR 1 / AMR 2 / SHAFT ALLEY))**

DESCRIPTION					
OBSERVE SWS PUMP OPERATION: WITHIN PARAMETERS, COUPLING MECH ALIGNMENT, REMOTE START/STOP FROM PACC, GROUNDING STRAPS AND SOUND ISO, MOTOR AND CONTROLLER WIRING, CHECK VLV OPERATION, PROPER ROTATION, GLAND/MECH SEAL LEAKAGE (SWPM)	1	3	5		

FIRE PUMPS (VCHT ROOM 1/ AMR 1 / SHAFT ALLEY/ 3 GTG)

OBSERVE FFP OPERATION: WITHIN PARAMETERS, COUPLING MECH ALIGNMENT, REMOTE START/STOP FROM DCC, GROUNDING STRAPS AND SOUND ISO, MOTOR AND CONTROLLER WIRING, CHECK VLV OPERATION, PROPER ROTATION, GLAND/MECH SEAL LEAKAGE (FPM)	1	2	5	6		
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MAIN SHAFTING (SHAFT ALLEY)

OBSERVE LSB TO INCLUDE: SUMP LEVEL, DIPSTICK MARKINGS, PHYSICAL SECURITY, SLINGER RING INSPECTIONS, LO SAMPLE CONNECTION, SEAL LEAKAGE, SPARE BRNG AVAILABILITY.	2A LSB	1B LSB		
OBSERVE STERN TUBE COOLING AND FLUSHING WATER SUPPLY, FILTER/STRAINER DELTA-P, SYSTEM INTEGRITY AND LEAKAGE, OPERATING WITHIN PARAMETERS, AND INFLATABLE SEAL AIR SUPPLY (STCW)	PORT SHAFT	STBD SHAFT		
TEST SHAFT SEAL LOW FLOW/LOW PRESSURE ALARM (STCW)	PORT SHAFT	STBD SHAFT		
OBSERVE SHAFT COUPLING GUARDS, GROUNDING STRAPS, AND BLKHD SEALS	PORT SHAFT	STBD SHAFT		

MISCELLANEOUS

DEMONSTRATE REMOTE OPERATORS	VCHT1							AMR1	AMR2		
DEMONSTRATE EDUCTORS											
DEMONSTRATE OILY WATER SEPARATOR OPERATION AND OIL CONTENT MONITOR											
DEMONSTRATE MVHC STATIONS	1	2	3	4	5	6	7				

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3

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GAS TURBINE GENERATORS AND SWITCHBOARDS

DESCRIPTION				
CHECK BLOW-IN DOORS FOR PROPER OPERATION / PROPER SEAL	1GTG	2GTG	3GTG	
INSPECT INTAKE FOR INTEGRITY AND CLEANLINESS	1GTG	2GTG	3GTG	
LOCOP LAMPS AND ALARMS (GTGMS)	1GTG	2GTG	3GTG	
RPM AND TEMPERATURE CONTROL CIRCUITS	1GTG	2GTG	3GTG	
GTG FIRE DETECT AND EXTINGUISHING SYSTEM. TEST FIRE ALARM, COOLING FAN, VENT/FIRE DAMPER, CO2 RELEASE HEAD, FUEL VLVS AND 5TH AND 10TH STAGE BLEED AIR VLVS.	1GTG	2GTG	3GTG	
FOQCV TO ENCLOSURE FROM A REMOTE LOCATION	1GTG	2GTG	3GTG	
DEMONSTRATE NO-BREAK POWER SUPPLY	1GTG	2GTG	3GTG	
CONDUCT GTGI	1GTG	2GTG	3GTG	
GTG COOLING WATER PUMP OPERATION	1GTG	2GTG	3GTG	
LO FLOW THROUGH GTG SIGHT FLOW INDICATORS	1GTG	2GTG	3GTG	
TEST LOW LO PRESSURE ALARM	1GTG	2GTG	3GTG	

AUXILIARY POWER UNITS (IF EQUIPPED)

DESCRIPTION				
CONDUCT A VISUAL INSPECTION OF THE APU ENCLOSURE ASSEMBLY, CONTROL PNL, NO BRAKE POWER SUPPLY, AIR INTAKE AND EXHAUST, FUEL SHUTOFF VALVE AND THE LUBRICATION (23699) AND FUEL SYSTEMS.	1APU	2APU	3APU	X
CONDUCT VISUAL INSPECTION OF ENCLOSURE INTERIOR	1APU	2APU	3APU	X
ACOP LAMP TEST	1APU	2APU	3APU	X
MANUALLY OPEN, ELECTRICALLY CLOSE THE EMERGENCY FUEL SHUT OFF VALVE	1APU	2APU	3APU	X
APU FIRE PROTECTION SYSTEM: TEST THE FIRE ALARM AT THE EPCC AND ACOP	1APU	2APU	3APU	X

60 HZ DISTRIBUTION SYSTEM (APPLICABLE FOR FLT 11A DDGs)

DESCRIPTION				
INSPECT SG, SA AND SB SECTIONS OF 60 HZ DISTRIBUTION SYSTEM.	AMR 1 (SG, SA) NR 1 SWBD RM (1SB)	MER 2 (SG, SA) NR 2 SWBD RM (2SB)	3 GTG (SG, SA) NR 3 SWBD RM (3SB)	O
INSPECT LOAD CENTERS (POWER DISTRIBUTION ZONES 1 THRU 6).	LC11, LC12, LC23, LC24	LC31, LC32, LC42, LC53	LC61, LC62	O

SWITCHBOARDS (AMR 1 /MER2/ 3GTG) (NON-FLT 11A DDGs)

DESCRIPTION				
INSPECT BATTERY: CONNX, CASING CRACKS, PROPER CHARGE, MOUNTING BRACKET, CLEAN AND DRY, SWBDS: INTEGRITY, GROUND TEST, BREAKERS INOPERATIVE, GLOVES / BOOTS / FACE SHIELD / SHORTING PROBE ON STATION	1 SWBD	2 SWBD	3 SWBD	

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MER 1 AND MER 2**FUEL OIL SERVICE SYSTEM**

DESCRIPTION				
FUEL OIL SERVICE PUMP LOGIC SEQUENCING	MER 1	MER 2		
TEST FUEL OIL PRE-FILTER HIGH DELTA-P ALARM	1A 1B	2A 2B		
TEST FUEL OIL FILTER/SEPARATOR DELTA-P ALARM	1A 1B	2A 2B		
IF APPLICABLE, FUEL OIL COALESCER AUTOMATIC SHIFTING AND BASKET INTERLOCKS. OBSERVE FOR INTERSTAGE BUTTERFLY VLV LEAKAGE	MER 1	MER 2		
TEST OPERATE QUICK CLOSING FO SUCTION VLV	MER 1	MER 2		

FO TRANSFER AND RECIRC SYSTEM

START AND PLACE ON-LINE, OBSERVE FOR PROPER OPERATION	MER 1	MER 2		
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LUBE OIL PURIFIER AND HEATER

OPERATION WITHIN PARAMETERS	MER 1	MER 2		
CONDUCT LO PURIFIER EFFICIENCY TEST	MER 1	MER 2		

LUBE OIL SERVICE SYSTEM

OBSERVE SUMP LEVEL INDICATOR	MER 1	MER 2		
OBSERVE LO COOLER OUTLET / BEARING TEMPERATURES	MER 1	MER 2		
DEMONSTRATE LO STRAINER OPERATION: SPRAY SHIELD INTEGRITY, STRAINER BASKET INSPECTION, OPERATION OF VENT, DRAIN AND EQUALIZING VLV, PLUG COCK LEAKAGE, AND STRAINER DELTA-P	MER 1	MER 2		
DEMONSTRATE LO STRAINER INTERLOCK DEVICES (LODS, LODF)	MER 1	MER 2		
DEMONSTRATE DUPLEX STRAINER/FILTER DELTA "P" HIGH ALARM	MER 1	MER 2		
OPERATION OF LO SYSTEM AT PRESSURE SETPOINTS	MER 1	MER 2		
TEST LOW LO PRESSURE ALARMS AND LO PUMP LOGICS	MER 1	MER 2		
SEQUENCE LO PUMPS. OBSERVE UNLOADER OPERATION AND LO PRESSURE.	MER 1	MER 2		
INSPECT OPERATION OF SUMP HEATERS AND TEMP REGULATING VLVS	MER 1	MER 2		

MAIN REDUCTION GEAR ASSEMBLY

OBSERVE LO FLOW THROUGH ALL SIGHT FLOW INDICATORS	MER 1	MER 2		
OBSERVE BEARING TEMPERATURES	MER 1	MER 2		
OBSERVE FOR LO LEAKS AND OIL ACCUMULATION IN CASING CAVATIES	MER 1	MER 2		
OBSERVE VENT FOG PRECIPITATOR OPERATION	MER 1	MER 2		
OPERATE TURNING GEAR / LOCK SHAFT	MER 1	MER 2		
OBSERVE SECURITY LOCKS AND WIRE SEALS	MER 1	MER 2		
OBSERVE DEHUMIDIFIER OPERATION	MER 1	MER 2		

FIRE PUMPS

OBSERVE FIRE PUMP OPERATION: WITHIN PARAMETERS, COUPLING MECH ALIGNMENT, REMOTE START/STOP FROM DCC, GROUNDING STRAPS AND SOUND ISO, MOTOR AND CONTROLLER WIRING, CHECK VLV OPERATION, PROPER ROTATION, GLAND/MECH SEAL LEAKAGE (FPM). DEMONSTRATE REMOTE START/STOP.	3 FFP	4 FFP		
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SEA WATER SERVICE SYSTEM

OBSERVE SWS PUMP OPERATION: WITHIN PARAMETERS, COUPLING MECH ALIGNMENT, REMOTE START/STOP FROM PACC, GROUNDING STRAPS AND SOUND ISO, MOTOR AND CONTROLLER WIRING, CHECK VLV OPERATION, PROPER ROTATION, GLAND/MECH SEAL LEAKAGE (SWPM)	2 SWSP	4 SWSP		
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MER 1 AND MER 2 (CONTINUED)

O = OBSERVE

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SHAFT CONTROL UNIT (SCU)

DESCRIPTION			
VERIFY CONSOLE ALIGNMENT, TEST ALARMS AND STATUS INDICATORS	MER 1	MER 2	
SHIFT TO UPS / CHECK REDUNDANT POWER SUPPLIES ARE OPERATIONAL	MER 1	MER 2	
DEMONSTRATE MOTOR OPERATED FUEL OIL VALVES	MER 1	MER 2	
TEST CRP SLEW RATE (in conjunction with PACC CRP test)	MER 1	MER 2	
DEMONSTRATE MODULE FUEL VALVES (FOAS)	MER 1	MER 2	

PROPULSION GAS TURBINE MODULE CHECKS

DEMONSTRATE LM 2500 FIRE DETECTION / EXTINGUISHING SYSTEM, INCLUDING FLAME DETECT SYSTEM POWER CONTINUITY LOSS	1A	1B	2A	2B		
INSPECT INTAKE PLENUM ("CLEAN" SIDE OF BARRIER WALL)	1A	1B	2A	2B		
INSPECT INTAKE SPACE FOR CLEANLINESS AND INTEGRITY	1A	1B	2A	2B		
DEMONSTRATE BLOW-IN DOORS AND VERIFY DOOR SEALING SURFACES.	1A	1B	2A	2B		
TEST OPERATE POWER TURBINE BRAKES	1A	1B	2A	2B		
INSPECT GTM AND BASE ENCLOSURE EXTERIOR (GTMI)	1A	1B	2A	2B		
OBSERVE LIGHTING AND DOOR SEALING SURFACES	1A	1B	2A	2B		
DEMONSTRATE UEC CHECKS (if equipped)	1A	1B	2A	2B		
DEMONSTRATE IIEC CHECKS (if equipped): LM 2500 POWER TURBINE OVERSPEED SWITCH, SPEED SIGNAL LOSS, AND SPEED LIMITING SYSTEM. BE PREPARED TO CONDUCT COLD PLANT SPEED LIMITING AND OVERSPEED SWITCH TESTS USING THE PROCEDURES OUTLINED IN THE LM 2500 TECH MANUAL. ADDITIONALLY, SIGNAL LOSS BYPASS, LOSS OF IIEC POWER AND LOSS OF FSDV POWER AND TORQUE LIMITING TEST SHOULD BE INCLUDED.	1A	1B	2A	2B		

PROPELLER PITCH CONTROL

SAMPLE AND TEST HYDRAULIC OIL	MER 1	MER 2		
VERIFY ELECTRONIC CALIBRATION WITH INSTALLED LOCAL SCALE FOR CONSISTENCY	MER 1	MER 2		
VERIFY PROPER OIL LEVEL (SUMP, HEAD TANK)	MER 1	MER 2		
OBSERVE FILTER / STRAINER DIFFERENTIAL PRESSURE	MER 1	MER 2		
INSPECT CRP SYSTEM FOR LEAKS	MER 1	MER 2		
CHECK STBY PUMP OPERATION	MER 1	MER 2		
OBSERVE SUMP HEATER OPERATION	MER 1	MER 2		
DEMONSTRATE OD BOX OPERATION (in conjunction with slew rate checks)	MER 1	MER 2		
DEMONSTRATE EMERGENCY PITCH HAND PUMP OPERATION (CPPT)	MER 1	MER 2		

MAIN SHAFTING

OBSERVE LSB TO INCLUDE: SUMP LEVEL, DIPSTICK MARKINGS, PHYSICAL SECURITY, SLINGER RING INSPECTIONS, LO SAMPLE CONNECTION, SEAL LEAKAGE, SPARE BRNG AVAILABILITY.	1A LSB		
OBSERVE SHAFT COUPLING GUARDS, GROUNDING STRAPS, AND BLKHD SEALS	PORT	STBD	

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MER 1 AND MER 2 (CONTINUED)**HP AIR SYSTEM (IF EQUIPPED)**

DESCRIPTION				
TEST HPAC LOW LUBE OIL SHUTDOWNS	1	2		
TEST HPAC COND DRAIN OPERATION	1	2		
TEST HPAC LOAD/UNLOAD PRESSURES	1	2		
OBSERVE OPERATION: WITHIN PARAMETERS, LO SAMPLE CONNECTION, DIPSTICK MARKINGS, RELIEF VLVS, SYSTEM CONTAMINATION BY WATER, OIL AND SEDIMENT.	1	2		
OBSERVE HPAD OPERATION: WITHIN PARAMETERS, NOT ON BYPASS, NO ALARMS IN CUTOUT	1	2		

LP AIR SYSTEM (NOT ALL DDGs HAVE 3 LPACS INSTALLED)

OBSERVE LPAC OPERATION: WITHIN PARAMETERS, LEAD/LAG CONFIGURATION, HIGH TEMP AND LOW LO SHUTDOWN, RELIEF VLVS, LO SAMPLING CONN, DIPSTICK MARKING, LO CONTAMINATION	1	2	3		
SHIFT LPAC DUPLEX STRAINER	1	2	3		
TEST LP AIR PRIORITY VALVES	MER1	MER2			
OBSERVE LPAD OPERATION: WITHIN PARAMETERS, NOT IN BYPASS, ALARMS	1	2	3		

VAPOR COMPRESSION/REVERSE OSMOSIS DISTILLERS

OBSERVE DISTILLER OPERATION TO INCLUDE OPERATION W/I PARAMETERS, PUMP ROTATION, AND LEAKS	1	2		
TEST SALINITY CELL AND DUMP VALVE SETPOINTS	1	2		

MISCELLANEOUS

DEMONSTRATE REMOTE OPERATORS	MER1	MER2		
DEMONSTRATE EDUCTORS	MER1	MER2		
DEMONSTRATE OILY WASTE TRANSFER PUMP				

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